

SUBCHAPTER K : ADDITIONAL REQUIREMENTS FOR CLASS V AQUIFER STORAGE WELLS

§331.181. Applicability.

In addition to the requirements of Subchapter H of this chapter (relating to Standards for Class V Wells), the requirements of this subchapter apply to all Class V aquifer storage wells.

Adopted May 29, 1996

Effective June 28, 1996

§331.182. Area of Review.

The area of review for a Phase I Class V aquifer storage well is the area determined by a radius of ¼ mile from the proposed or existing wellbore. The area of review for a Phase II Class V aquifer storage well is the area determined by a radius of ¼ mile from the perimeter of a buffer zone as described under §295.22(e)(5) of this title (relating to Additional Requirements for the Underground Storage of Surface Water for Subsequent Retrieval and Beneficial Use). In the application for authorization, the applicant shall provide information on the activities within the area of review including the following factors and their adverse impacts, if any, on the injection operation:

- (1) location of all artificial penetrations that penetrate the interval to be used for aquifer storage, including but not limited to: water wells and abandoned water wells from TNRCC well files or ground water district files; oil and gas wells and saltwater injection wells from the Railroad commission files; and waste disposal wells/other injection wells from the TNRCC disposal well files;
- (2) completion and construction information, where available, for identified artificial penetrations; and
- (3) site specific, significant geologic features, such as faults and fractures.

Adopted December 18, 1996

Effective January 10, 1997

§331.183. Construction and Closure Standards.

All Class V aquifer storage wells shall be designed, constructed, completed, and closed to prevent, commingling, through the wellbore and casing, of injection waters with other fluids outside of the authorized injection zone; mixing through the wellbore and casing of fluids from aquifers of substantively different water quality; and infiltration through the wellbore and casing of water from the surface into ground water zones.

- (1) Plans and specifications. Except as specifically required in the terms of the Class V aquifer storage well authorization, the drilling and completion of a Class V aquifer storage well shall be done in accordance with the requirements of §331.132 of this title (relating to Construction Standards) and the closure of a Class V aquifer storage well shall be done in accordance with the requirements of §331.133 of this title (relating to Closure Standards).

(A) If the operator proposes to change the injection interval to one not reviewed during the authorization process, the operator shall notify the executive director immediately. The operator may not inject into any unauthorized zone.

(B) The executive director shall be notified immediately of any other changes, including but not limited to, changes in the completion of the well, changes in the setting of screens, and changes in the injection intervals within the authorized injection zone.

(2) Construction materials. Casing materials for Class V aquifer storage wells shall be constructed of materials resistant to corrosion.

(3) Construction and workover supervision. All phases of any aquifer storage well construction, workover or closure shall be supervised by qualified individuals who are knowledgeable and experienced in practical drilling engineering and who are familiar with the special conditions and requirements of injection well and water well construction.

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§331.184. Operating Requirements.

(a) All Class V aquifer storage wells shall be operated in such a manner that they do not present a hazard to or cause pollution of an underground source of drinking water.

(b) Injection pressure at the wellhead shall not exceed a maximum which shall be calculated so as to assure the pressure in the injection zone does not cause movement of fluid out of the injection zone.

(c) The owner or operator of an aquifer storage well that has ceased operations for more than two years shall notify the executive director 30 days prior to resuming operation of the well.

(d) The owner or operator shall maintain the mechanical integrity of all wells operated under this section.

(e) The quality of water to be injected must meet the quality criteria prescribed by the commission's drinking water standards as provided in Chapter 290 of this title (relating to Water Hygiene).

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§331.185. Monitoring and Reporting Requirements.

(a) The following must be monitored at the required frequency, and reported to the executive director on a quarterly basis or a schedule to be agreed upon by the executive director:

- (1) monthly average injection rates;
- (2) monthly injection and retrieval volumes;

(3) monthly average injection pressures;

(4) monthly water quality analyses of injected water; and

(5) other information as determined by the executive director as necessary for the protection of underground sources of drinking water.

(b) A final report for Phase I of an aquifer storage and retrieval project or a feasibility study of any other aquifer storage project must be submitted to the executive director within 45 days of the completion of such projects addressing items in §331.186 of this title (relating to Additional Requirements Necessary for Final Project Authorization).

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Effective January 10, 1997

§331.186. Additional Requirements Necessary for Final Project Authorization.

Upon completion of the aquifer storage well, the following information shall be obtained during the first phase of the project and submitted along with the application for final authorization:

(1) as-built drilling and completion data on the well;

(2) all logging and testing data on the well;

(3) formation fluid analyses;

(4) injection fluid analyses;

(5) injectivity and pumping tests determining well capacity and reservoir characteristics;

(6) hydrogeologic modeling, with supporting data, predicting mixing zone characteristics and injection fluid movement and quality; and

(7) other information as determined by the executive director as necessary for the protection of underground sources of drinking water.

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